UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
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DETAILED INFORMATION ON

SURVEY OF BUFFALO GRASS IN WESTERN KANSAS, OKLAHOMA, NEBRASKA, TEXAS, AND EASTERN COLORADO

Supplement to Bureau of Plant Industry

Circular on Same Subject

by

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Table_____. Percentage of ground surface occupied by grasses and forbs on ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity of Dalhart, Texas, as charted with pantographs in June, 1935.

Grazing and clipping treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bh	Bd	Sp	Tp	Total	Tall grasses: Asa	As	Al	Bc	Sn	Sc	Spsp	Total	Total Pere.	Annual grasses: Cv	Fo	H	Pc	Total	Total all grass	Total forbs Per.& Bien.	Total vegetation*
Clay Loam Soil (30 miles east of Dalhart)																								
Moderately grazed North of Etter	10	3.87	0	6.83	.01	0	10.71	0	0	0	0	0	.16	0	.16	10.87	0	.06	.04	0	.10	10.97	.77	11.74
Heavily grazed North of Etter	10	2.77	0	2.30	.01	0	5.08	0	0	0	0	0	.01	0	.01	5.09	0	0	0	0	0	5.09	.10	5.19
East of Exum	10	T	0	T	0	0	T	0	0	0	0	0	0	0	0	T	0	0	0	0	0	T	T	T
Ave. heavily grazed	20	1.39	0	1.15	.01	0	2.54	0	0	0	0	0	.01	0	.01	2.55	0	0	0	0	0	2.55	.05	2.60
Average all grazed areas	30	2.63	0	3.99	.01	0	6.63	0	0	0	0	0	.09	0	.09	6.71	0	.03	.02	0	.05	6.76	.41	7.17
Silty Clay Loam Soil (10 to 15 miles N.E. of Dalhart)																								
Not grazed for 6 years	10	11.82	0	10.03	.22	.11	22.18	0	0	0	0	0	0	0	0	22.18	0	.08	0	0	.08	22.26	.37	22.63
Moderately grazed Richfield soil	10	.58	0	.53	0	0	1.11	0	0	0	0	0	.04	0	.04	1.15	0	T	0	0	T	1.15	.35	1.50
Pullman soil	10	4.96	0	8.08	.01	0	13.05	0	0	0	0	0	.01	0	.01	13.06	0	.04	T	0	.04	13.10	.06	13.16
Ave. Mod. grazed	20	2.77	0	4.31	.01	0	7.08	0	0	0	0	0	.03	0	.03	7.11	0	.02	T	0	.02	7.13	.21	7.33
Average all areas	30	7.29	0	7.17	.12	.06	14.63	0	0	0	0	0	.02	0	.02	14.64	0	.05	T	0	.05	14.70	.29	14.98
Sandy Loam Soil (In vicinity of Dalhart Station)																								
Not grazed Lightly clipped	10	6.67	0	.35	0	0	7.02	0	0	.04	0	0	.38	0	.42	7.44	0	0	0	0	0	7.44	.32	7.76
Closely clipped	5	9.69	.01	7.20	.32	0	17.22	0	0	.04	.03	0	0	0	.07	17.29	0	0	0	0	0	17.29	.01	17.30
Average not grazed	15	8.18	.01	3.78	.16	0	12.12	0	0	.04	.02	0	.19	0	.25	12.37	0	0	0	0	0	12.37	.17	12.53
Moderately grazed Rouse's pasture	10	10.12	0	2.22	.11	0	12.45	0	0	.12	0	0	.20	0	.32	12.77	0	0	0	0	0	12.77	.06	12.83
Heavily grazed Dalhart Station	10	4.14	0	3.32	.04	T	7.50	0	0	T	.01	0	.48	0	.49	7.99	0	.01	0	0	.01	8.00	.19	8.19
Average all grazed areas	20	7.13	0	2.77	.08	T	9.98	0	0	.06	.01	0	.34	0	.41	10.38	0	.01	0	0	.01	10.38	.13	10.51
Average all areas	35	7.48	T	3.10	.10	T	10.69	0	0	.05	.01	0	.29	0	.35	11.04	0	T	0	0	T	11.05	.14	11.18
Sand																								
Sage-sand type Mod. grazed	20	5.29	.77	0	.01	0	6.07	0	.09	.04	1.43	.01	.17	.01	1.75	7.82	0	.09	0	T	.09	7.91	1.32	9.23
Yucca-sand type Heavily grazed	10	T	.17	0	.01	1.83	2.01	.08	0	5.40	.35	0	.12	0	5.95	7.96	.01	0	0	0	.01	7.97	.88	8.85
Average both sand types	30	2.65	.47	0	.01	.92	4.04	.04	.05	2.72	.89	.01	.15	.01	3.85	7.89	.01	.05	0	T	.05	7.94	1.10	9.04
All Soil Types																								
Grand average Not grazed	25	10.00	.01	6.91	.19	.06	17.15	0	0	.02	.01	C	.10	0	.13	17.28	0	.04	0	0	.04	17.32	.27	17.58
Mod. grazed	60	5.51	.19	3.34	.04	0	9.08	0	.02	.04	.36	T	.14	T	.57	9.62	0	.04	.01	T	.05	9.70	.59	10.28
Heavily grazed	40	1.84	.06	1.49	.02	.61	4.02	.03	0	1.80	.12	0	.20	0	2.15	6.17	T	T	0	0	.01	6.17	.37	6.55
All grazed areas	100	3.94	.13	2.55	.03	.26	6.91	.01	.01	.79	.26	T	.17	T	1.24	8.15	T	.03	.01	T	.03	8.19	.50	8.68
All areas	125	5.29	.11	3.52	.06	.22	9.18	.01	.01	.62	.20	T	.15	T	1.00	10.18	T	.03	T	T	.03	10.21	.44	10.66

Bg-Bouteloua gracilis (Blue grama), Bh-Bouteloua hirsuta (Hairy grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Tp-Triodia pilosa (Hairy Triodia), Asa-Andropogon saccharoides (Torrey's Beard grass), As-Andropogon scoparius (Little Bluestem), Al-Aristida longiseta (Wire grass), Bc-Bouteloua curtipendula (Side oats grama), Sn-Sorghastrum nutans (Indian grass), Sc-Sporobolus cryptandrus (Sand dropseed), Spsp-Sporobolus species, Cv-Chloris verticillata (Windmill grass), Fo-Festuca octoflora (Slender fescue), H-Hordeum pusillum (Little barley), Pc-Panicum capillare (Witch grass).

Table_____. Percentage of ground surface occupied by grasses, forbs and sedges on ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity of Garden City, Kansas, as charted with pantographs in June, 1935.

Grazing and special treatment	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bh	Bd	Sp	Total	Tall grasses: Asm	Af	Asa	As	Al	Bc	Psp	Rf	Sn	Sa	Sc	Up	Total	Total Pere.	Annual grasses: Cv	Fo	H	Pc	Total	Total all grass	Total forbs Per.& Bien.	Total sedges	Total vegetation*	Charted** Ann. forbs	No. of seedlings per meter: Bg	Bd
Silty Clay Loam Soil near Kalvesta, Kansas																																
Not grazed for 8 years	4	7.76	.11	.60	0	8.47	.27	.37	0	0	2.05	2.90	0	.03	0	0	0	0	5.62	14.09	0	0	.02	0	.02	14.11	1.76	0	15.87	.32	0	0
Moderately grazed																																
Winter's pasture	8	3.55	0	16.39	0	19.94	0	0	0	0	.06	0	0	0	0	0	1.15	0	1.21	21.15	0	T	.06	0	.06	21.21	.16	0	21.37	T	0	0
Byler's pasture	4	11.71	0	2.89	0	14.60	0	0	0	.05	.50	1.16	0	0	0	0	0	0	1.71	16.31	0	0	0	0	0	16.31	.61	0	16.92	.02	0	0
Av. moderately grazed	12	7.63	0	9.64	0	17.27	0	0	0	.03	.28	.58	0	0	0	0	.58	0	1.46	18.73	0	T	.03	0	.03	18.76	.39	0	19.15	.01	0	0
Heavily grazed	4	4.18	0	10.37	0	14.55	0	0	0	0	0	0	0	0	0	0	0	0	0	14.55	0	0	0	0	0	14.55	0	0	14.55	.14	0	0
Very heavily grazed	4	1.90	0	2.71	0	4.61	0	0	0	0	T	0	0	0	0	0	.02	0	.02	4.63	0	.02	.03	.02	.07	4.70	.18	0	4.88	.60	14	144
Av. all grazed areas	20	4.57	0	7.57	0	12.14	0	0	0	.01	.09	.19	0	0	0	0	.20	0	.49	12.64	0	.01	.02	.01	.03	12.67	.19	0	12.86	.25	5	48
Av. all areas	24	5.37	.03	5.83	0	11.23	.07	.09	0	.01	.58	.87	0	.01	0	0	.15	0	1.78	13.00	0	.01	.02	.01	.03	13.03	.58	0	13.61	.27	4	36
"Dalhart" Silt Loam Soil (Garden City Station)																																
Not grazed for 14 years	10	.69	0	.05	T	.74	0	0	0	0	0	0	0	0	0	0	0	0	0	.74	0	0	0	0	0	.74	.13	0	.87	0	6	20
Moderately grazed																																
Not watered																																
First location	10	.87	0	.85	0	1.72	0	0	0	0	0	.02	0	0	0	0	0	0	.02	1.74	0	0	.23	0	.23	1.97	.08	0	2.05	0	9	59
Second location	8	.74	0	.40	0	1.14	0	0	0	0	0	0	0	0	0	0	0	0	0	1.14	0	0	0	0	0	1.14	.02	0	1.16	0	14	81
Av. not watered	18	.81	0	.63	0	1.43	0	0	0	0	0	.01	0	0	0	0	0	0	.01	1.44	0	0	.12	0	.12	1.56	.05	0	1.61	0	12	70
Watered occasionally	4	3.74	0	.13	0	3.87	0	0	0	0	0	0	0	0	0	0	0	0	0	3.87	0	.02	3.87	0	3.89	7.76	2.03	0	9.79	.05	7	14
Av. Mod. grazed	22	2.28	0	.38	0	2.65	0	0	0	0	0	.01	0	0	0	0	0	0	.01	2.66	0	.01	2.00	0	2.01	4.66	1.04	0	5.70	.03	10	42
Average all areas	32	1.49	0	.22	T	1.70	0	0	0	0	0	.01	0	0	0	0	0	0	.01	1.70	0	.01	1.00	0	1.01	2.70	.59	0	3.29	.02	8	31
"Enterprise" Sand (South of the Arkansas River)																																
Not grazed for many years	4	.02	.92	.03	0	.97	0	0	.06	.48	T	0	0	.21	.89	.37	.48	0	2.49	3.46	0	.73	0	0	.73	4.19	1.26	0	5.45	.12	0	0
Moderately grazed																																
Brown's pasture	8	4.03	0	.05	.02	4.10	0	0	0	T	.08	0	0	0	0	0	1.90	0	1.98	6.08	0	.48	0	0	.48	6.56	.92	0	7.48	.29	0	0
Moody's pasture	8	.05	.90	T	0	.95	0	.15	.02	.34	T	0	0	.10	.44	.27	.60	0	1.92	2.87	0	.23	0	.10	.33	3.20	.95	0	4.15	.06	0	0
Jones' summer pasture	8	1.97	1.15	0	0	3.12	0	.21	0	.39	0	.39	.18	.02	.21	.02	.39	.03	1.84	4.96	T	.13	0	.10	.23	5.19	3.95	.02	9.16	.26	0	0
Jones' winter pasture	8	.10	3.06	0	0	3.16	0	.10	0	1.76	0	.27	0	0	2.45	.14	.40	0	5.12	8.28	0	.08	0	.19	.27	8.55	1.97	.02	10.54	.39	0	0
Av. Mod. grazed	32	1.54	1.28	.01	.01	2.83	0	.12	.01	.62	.02	.17	.05	.03	.78	.11	.82	.01	2.72	5.55	T	.23	0	.10	.33	5.88	1.95	.01	7.83	.25	0	0
Heavily grazed	8	.06	2.08	T	0	2.14	0	0	T	.18	0	0	0	.06	.10	.26	.53	0	1.13	3.27	0	.13	.03	.19	.16	3.43	2.56	0	5.99	.14	0	0
Av. all grazed areas	40	.80	1.68	.01	.01	2.49	0	.06	.01	.40	.01	.09	.03	.05	.44	.19	.68	.01	1.93	4.41	T	.18	.02	.05	.25	4.66	2.26	.01	6.91	.20	0	0
Av. all areas	44	.54	1.43	.01	T	1.98	0	.04	.02	.43	.01	.06	.02	.10	.59	.25	.61	T	2.11	4.09	T	.36	.01	.03	.41	4.50	1.92	T	6.42	.17	0	0
All Soil Types																																
Grand average																																
Not grazed	18	2.82	.34	.23	T	3.39	.09	.12	.02	.16	.68	.97	0	.08	.30	.12	.16	0	2.70	6.10	0	.24	.01	0	.25	6.35	1.05	0	7.40	.15	2	7
Moderately grazed	66	3.82	.43	3.34	T	7.58	0	.04	T	.22	.10	.25	.02	.01	.26	.04	.47	T	1.40	8.98	T	.08	.68	.03	.79	9.77	1.13	T	10.89	.10	3	14
Heavily grazed	12	2.12	1.04	5.19	0	8.35	0	0	T	.69	0	0	0	.03	.05	.13	.27	0	.57	8.91	0	.07	.02	0	.08	8.99	1.28	0	10.27	.14	0	0
Very heavily grazed	4	1.90	0	2.71	0	4.61	0	0	0	0	T	0	0	0	0	0	.02	0	.02	4.63	0	.02	.03	.02	.07	4.70	.18	0	4.88	.60	14	144
All grazed areas	82	2.93	.56	3.85	T	7.34	0	.02	T	.14	.05	.13	.01	.02	.15	.06	.33	T	.89	8.23	T	.07	.35	.02	.43	8.66	1.02	T	9.68	.20	4	31
All areas	100	2.90	.49	2.64	T	6.03	.03	.05	.01	.15	.26	.41	.01	.04	.20	.08	.27	T	1.49	7.52	T	.12	.23	.01	.37	7.89	1.03	T	8.92	.18	3	23

* Total vegetation includes all species, except annual forbs. ** Only the more important annuals were charted. T-denotes a trace or less than .01 percent.
Bg-Bouteloua gracilis (Blue grama), Bh-Bouteloua hirsuta (Hairy grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Asm-Agropyron smithii (Western wheat grass), Af-Andropogon furcatus (Big Bluestem), Asa-Andropogon saccharoides (Torrey's beard grass), As-Andropogon scoparius (Little Bluestem), Al-Aristida longiseta (Wire grass), Bc-Bouteloua curtipendula (Side oats grama), Psp-Panicum species, Rf-Redfieldia flexuosa (Blow-out grass), Sn-Sorghastrum nutans (Indian grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), Up-unknown perennial, Cv-Chloris verticillata (Windmill grass), Fo-Festuca octoflora (Slender fescue), H-Hordeum pusillum (Little barley), Pc-Panicum capillare (Witch grass).

Table_____. Percentage of ground surface occupied by grasses and perennial and biennial forbs on ungrazed, moderately grazed and heavily grazed areas in the vicinity of Tribune, Kansas, as charted with pantographs in June, 1935.

Tribune, Kansas, 1935

Grazing and watering treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bd	Total	Tall grasses: Al	Sa	Sc	Total	Total Pere.	Annual H	Total all grass	Total forbs Per.& Bien.	Total sedges	Total vegetation*	Annual forbs: Charted	Estimated	No. of seedlings per meter: Bg	Bd	Tp
"Colby" Silt-Loam Soil (Medium-heavy texture)																			
Not grazed																			
Lightly watered lawn	4	4.66	88.44	93.10	0	0	0	0	93.10	.03	93.13	.19	0	93.32	0	0	0	0	0
Dry-land area**	8	14.44	2.10	16.54	0	0	0	0	16.54	0	16.54	.24	0	16.78	0	M	0	0	0
Average not grazed	12	9.55	45.27	54.82	0	0	0	0	54.82	.02	54.84	.22	0	55.05	0	F	0	0	0
Moderately grazed																			
Cattle-horse pasture																			
High land	8	1.35	1.19	2.54	0	0	0	0	2.54	0	2.54	.05	0	2.59	T	F	5	55	F
Low land	8	.14	1.58	1.72	0	.03	0	.03	1.75	0	1.75	.12	0	1.87	T	F	2	92	182
Av. cattle pasture	16	.75	1.39	2.13	0	.02	0	.02	2.15	0	2.15	.09	0	2.23	0	F	3	74	91
Cattle pasture																			
High land	8	4.47	2.66	7.13	T	0	0	T	7.13	0	7.13	0	0	7.13	0	M	1	5	0
Low land	8	7.82	3.90	11.72	0	0	0	0	11.72	0	11.72	0	0	11.72	0	N	0	T	9
Av. cattle pasture	16	6.15	3.28	9.43	T	0	0	T	9.43	0	9.43	0	0	9.43	0	VN	1	3	0
Sheep pasture	8	6.27	4.18	10.45	.03	0	.06	.09	10.54	0	10.54	.10	0	10.64	0	F	T	4	0
Av. moderately grazed	40	4.39	2.95	7.34	.01	.01	.02	.04	7.37	0	7.37	.06	0	7.43	0	M	1	27	30
Heavily grazed																			
Small horse-pasture																			
High land	8	1.85	2.40	4.25	0	0	0	0	4.25	0	4.25	T	0	4.25	T	M	0	0	0
Low land (flooded June 6, 1932)	8	6.45	8.44	14.89	0	0	.05	.05	14.94	0	14.94	.31	0	15.25	0	VN	0	0	0
Av. horse-pasture	16	4.15	5.42	9.57	0	0	.03	.03	9.60	0	9.60	.16	0	9.75	T	N	0	0	0
Large sheep pasture	8	4.53	6.29	10.82	0	0	.01	.01	10.83	0	10.83	.11	0	10.94	.06	F	T	6	0
Average heavily grazed	24	4.34	5.86	10.20	0	0	.02	.02	10.22	0	10.22	.14	0	10.35	.03	M	T	3	0
Grand average																			
All grazed areas	64	4.37	4.11	8.48	.01	T	.02	.03	8.51	0	8.51	.09	0	8.60	.01	M	1	17	18
All areas	76	5.23	10.97	16.20	.01	T	.02	.03	16.23	T	16.23	.11	0	16.34	.01	M	1	14	15

* Total vegetation includes all species, except annual forbs.

** Not grazed for eleven years, except during the winter of 1934-35.

T-denotes a trace; M, medium; N, numerous and F, few.

Bg-Bouteloua gracilis (Blue grama), Bd-Buchloe dactyloides (Buffalo grass), Al-Aristida longiseta (Wire grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), H-Hordeum pusillum (Little barley) and Tp-Triodia pilosa (Hairy Triodia).

Table_____. Percentage of ground surface occupied by grasses, forbs and sedges on ungrazed, moderately grazed and heavily grazed areas in the vicinity of Colby and Rexford, Kansas, as charted with pantographs in June, 1935

Grazing and watering treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bd	Sp	Total	Tall grasses: Asm	Sa	Sc	Spsp	Total	Total Pere.	Annual grasses: Fe	H	Pc	Ua	Total	Total all grass	Total forbs Per.& Bien.	Total sedges	Total* vegetation	Annual forbs: Charted	Estimated	No. of seedlings per meter: Bg	Bd
Colby Silt Loam (Medium-heavy texture)																								
In Vicinity of Colby Station																								
Not grazed																								
Dry land area, ungrazed for 3 years	8	1.47	1.97	0	3.44	0	T	.05	0	.05	3.49	0	.05	.02	.40	.47	3.96	.18	.63	4.77	.45	VN	3	66
Lawn watered in fall 1934	6	16.70	42.21	1.37	60.28	0	2.31	1.69	0	4.00	64.28	0	.40	.02	0	.42	64.70	.39	1.56	66.65	0	0	0	0
Average not grazed	14	9.09	22.09	.69	31.86	0	1.16	.87	0	2.03	33.89	0	.23	.02	.20	.45	34.33	.29	1.10	35.71	.23	M	2	33
Moderately grazed																								
First location	8	4.06	2.73	0	6.79	0	0	.30	0	.30	7.09	0	.03	T	.48	.51	7.60	.16	.10	7.86	.40	VN	0	1
Second location	8	2.93	2.18	0	5.11	0	0	.02	T	.02	5.13	0	T	T	.35	.35	5.48	.12	T	5.60	.10	VN	5	19
Average mod. grazed	16	3.50	2.46	0	5.95	0	0	.16	T	.16	6.11	0	.02	T	.42	.43	6.54	.14	.05	6.73	.25	VN	3	10
Heavily grazed																								
East of Colby Station	8	.11	2.15	0	2.26	0	0	.68	0	.68	2.94	0	.06	.03	.35	.44	3.38	.02	.11	3.51	.66	M	1	24
Average all grazed areas	24	1.81	2.31	0	4.11	0	0	.42	T	.42	4.53	0	.04	.02	.39	.44	4.96	.08	.08	5.12	.46	N	2	17
Average all areas	38	4.23	8.90	0	13.36	0	.39	.57	T	.96	14.31	0	.10	.02	.32	.44	14.75	.15	.42	15.32	.38	M	2	22
On Foster Farms (20 miles N.E. of Colby, Kansas)																								
Moderately grazed	5	6.06	14.08	T	20.14	0	0	.27	0	.27	20.41	.05	.22	0	.02	.29	20.70	.05	0	20.75	.10	M	3	10
Heavily grazed	5	5.37	21.06	T	26.43	.27	0	T	0	.27	26.70	.14	.44	T	0	.58	27.28	.11	.05	27.44	.67	0	2	13
Very heavily grazed	5	5.50	28.48	T	33.98	.16	0	.03	0	.19	34.17	.03	.44	0	0	.47	34.64	.02	0	34.66	.20	F	0	0
Ave. all grazed areas near Rexford.	15	5.64	21.21	T	26.85	.14	0	.10	0	.24	27.09	.07	.37	T	.01	.45	27.54	.06	.02	27.62	.32	F	2	8
Grand average, all locations																								
Not grazed	14	9.09	22.09	.69	31.86	0	1.16	.87	0	2.03	33.89	0	.23	.02	.20	.45	34.33	.29	1.10	35.71	.23	M	2	33
Moderately grazed	21	4.78	8.27	T	13.05	0	0	.22	T	.22	13.26	.03	.12	T	.22	.36	13.62	.10	.03	13.74	.18	N	3	10
Heavily grazed	13	2.74	11.61	T	14.35	.14	0	.34	0	.48	14.82	.07	.25	.02	.18	.51	15.33	.07	.08	15.48	.67	F	2	19
Very heavily grazed	5	5.50	28.48	T	33.98	.16	0	.03	0	.19	34.17	.03	.44	0	0	.47	34.68	.02	0	34.66	.20	F	0	0
All grazed areas	39	4.11	13.65	T	17.75	.09	0	.23	T	.31	18.07	.04	.24	.01	.16	.44	18.51	.07	.04	18.62	.38	M	2	11
All areas	53	4.94	15.05	.12	20.10	.07	.19	.34	T	.60	20.70	.04	.24	.01	.17	.44	21.15	.11	.22	21.47	.35	M	2	15

*-Total vegetation includes all species of vegetation, except annual forbs.

T-Trace or less than .01 percent, F-few, M-medium, VN-very numerous.

Bg-Bouteloua gracilis (Blue grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumblegrass), Asm-Agropyron smithii (Western wheat grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), Spsp-Sporobolus species, Fe-Festuca octoflora (Slender fescue), H-Hordeum pusillum (Little barley), Pc-Panicum capillare (Witch grass), Ua-Unknown annual.

Table_____. Percentage of ground surface occupied by grasses and forbs on ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity of Woodward, Oklahoma, as charted with pantographs in May, 1935.

Grazing treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bd	Sp	Tp	Total	Tall grasses: Af	As	Al	Bc	Ps	Sc	Total	Total Pere.	Annual grasses: Cv	Fe	H	Sne	Total	Total all grass	Total forbs Per.& Bien.	Total vegetation*
Silty Clay Loam Soil																						
Heavily grazed	13	2.66	15.22	.03	0	17.91	0	.01	.27	2.08	0	T	2.36	20.27	.06	.04	0	0	.10	20.37	.24	20.61
Very heavily grazed	10	.56	16.54	.12	0	17.22	.01	0	.06	.45	0	.04	.56	17.78	.01	.02	0	.01	.04	17.82	.37	18.19
Average	23	1.61	15.88	.08	0	17.57	.01	.01	.17	1.27	0	.02	1.46	19.03	.04	.03	0	.01	.07	19.10	.31	19.40
Sandy Loam Soil																						
Not grazed	5	13.24	18.27	0	0	31.51	0	0	0	0	.02	2.89	2.91	34.42	0	0	3.06	0	3.06	37.48	.37	37.85
Very moderately grazed	5	14.94	9.50	0	.02	24.46	.10	0	.13	T	0	1.48	1.71	26.17	0	.03	4.69	0	4.72	30.89	1.06	31.95
Average	10	14.09	13.89	0	.01	27.99	.05	0	.07	T	.01	2.19	2.31	30.30	0	.02	3.88	0	3.89	34.19	.72	34.90
Both Types of Soil																						
Grand Average																						
All grazed areas	28	6.05	13.75	.05	.01	19.86	.04	T	.15	.84	0	.51	1.54	21.41	.02	.03	1.56	T	1.62	23.03	.56	23.58
All areas	33	7.85	14.88	.04	.01	22.78	.03	T	.12	.63	.01	1.10	1.89	24.66	.02	.02	1.94	T	1.98	26.64	.51	27.15

* Total vegetation includes all species, except annual forbs.
T-indicates a trace or less than .01 percent.
Bg-Bouteloua gracilis (Blue grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Tp-Triodia pilosa (Hairy Triodia), Af-Andropogon furcatus (Big Bluestem), As-Andropogon scoparius (Little Bluestem), Bc-Bouteloua curtipendula (Side oats grama), Ps-Panicum scribnerianum, Sc-Sporobolus cryptandrus (Sand dropseed), Cv-Chloris verticillata (Windmill grass), Fe-Festuca octoflora (Slender Fescue), H-Hordeum pusillum (Little barley), Sne-Sporobolus neglectus (Small rush grass), Al-Aristida longiseta (Wire grass).

Table_____. Percentage of ground surface occupied by grasses, forbs and sedges on ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity of North Platte, Nebraska, as charted with pantographs in June, 1935

Grazing treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bh	Bd	Sp	Total	Tall grasses: Apa	Asm	Af	As	Al	Bc	Clo	Hj	Ps	Pv	Se	Sa	Sc	Sco	Total	Total Pere.	Annual grasses: Fe	Pc	Sne	Total	Total all grass	Total forbs Per.& Bien.	Total seedges	Total vegetation*	Annual forbs: Charted	Counted**
"Colby" Very Fine Sandy Loam Soil (In vicinity of North Platte Station)																																
Not grazed for 8 years	5	27.41	0	8.22	0	35.63	0	2.43	0	0	.09	0	0	0	T	0	0	.51	.04	0	3.07	38.70	1.08	0	0	1.08	39.78	.31	.16	40.25	.47	18
Very moderately grazed																																
Level upland	5	24.19	0	13.75	.01	37.95	0	.09	0	0	.12	0	0	.04	0	0	0	.06	.12	0	.43	38.38	.33	0	0	.33	38.71	.10	1.45	40.26	T	172
Sloping hill top	5	10.06	0	6.75	0	16.81	0	.24	0	5.98	.56	0	0	0	0	C	0	T	.01	.93	7.72	24.53	.50	0	0	.50	25.03	.28	.41	25.72	T	50
Ave. V. Mod. grazed	10	17.13	0	10.25	.01	27.38	0	.17	0	2.99	.34	0	0	.02	0	0	0	.03	.07	.47	4.08	31.46	.42	0	0	.42	31.87	.19	.93	32.99	T	111
Moderately grazed																																
Nearly level upland	5	21.75	0	17.17	0	38.92	0	.35	0	0	.38	0	0	0	0	0	0	T	.12	1.24	2.09	41.01	.06	0	0	.06	41.07	.08	.04	41.19	.08	17
Sloping hill top	5	8.95	.01	14.70	.01	23.67	0	0	0	1.08	.64	.54	0	0	0	0	0	T	.58	1.38	4.22	27.89	.09	0	0	.09	27.98	.25	4.12	32.35	.10	20
Ave. Mod. grazed	10	15.35	.01	15.94	.01	31.25	0	.18	0	.54	.51	.27	0	0	0	0	0	T	.35	1.31	3.16	34.45	.08	0	0	.08	34.53	.17	2.08	36.77	.09	185
Heavily grazed for 25 years	5	26.67	.04	40.53	0	67.24	0	.06	0	0	.03	0	0	.01	0	0	0	0	.01	0	.11	67.34	.43	0	.06	.49	67.83	.33	.01	68.17	1.00	48
Ave. all grazed areas	25	19.72	.02	22.24	.01	41.96	0	.14	0	1.18	.29	.09	0	.01	0	0	0	.01	.14	.59	2.45	44.42	.33	0	.02	.33	44.74	.23	1.01	45.98	.36	59
Ave. all areas	30	21.64	.01	18.74	.01	40.38	0	.71	0	.88	.24	.07	0	.01	T	0	0	.14	.12	.45	2.61	42.99	.50	0	.02	.52	43.50	.25	.80	44.55	.39	50
"Valentine" Loamy Sand to Dune Sand (Ten miles north of North Platte)																																
Not grazed	5	3.89	0	0	0	3.89	T	T	.48	.08	.01	0	2.61	0	T	0	0	0	5.13	.53	8.84	12.73	.01	0	0	.01	12.74	.77	2.66	16.17	.01	11
Very Mod. grazed	5	8.74	.81	3.50	0	13.05	0	.19	.05	8.06	T	0	1.66	0	.18	.18	.05	0	4.82	.19	15.38	28.43	.45	.19	0	.64	29.07	.61	1.26	30.94	.04	54
Moderately grazed	5	16.00	.26	0	0	16.26	0	.34	.55	2.44	0	0	2.11	0	.10	.22	.04	0	4.05	.24	10.09	26.35	.03	.03	0	.06	26.41	1.53	1.71	29.65	.02	2
Heavily grazed	5	15.42	.60	0	0	16.02	0	0	.03	3.05	0	0	.92	0	.10	.27	0	0	4.16	.03	8.56	24.58	.48	0	0	.48	25.06	.69	.55	26.30	.08	5
Ave. all grazed areas	15	13.39	.56	1.17	0	15.11	T	.18	.21	4.52	T	0	1.56	0	.13	.22	.03	0	4.34	.15	11.34	26.45	.32	.07	0	.39	26.85	.94	1.17	28.96	.05	20
Ave. all areas	20	11.01	.42	.88	0	12.31	T	.13	.28	3.41	T	0	1.83	0	.10	.17	.02	0	4.54	.25	10.72	23.02	.24	.06	0	.30	23.32	.90	1.55	25.77	.04	18
Both Types of Soil.																																
Grand average																																
Not grazed	10	15.65	0	4.11	0	19.76	T	1.22	.24	.04	.05	0	1.31	0	T	0	0	.26	2.59	.27	5.96	25.72	.55	0	0	.55	26.26	.54	1.41	28.21	.24	15
Very Mod. grazed	15	12.94	.41	6.88	.01	20.22	0	.18	.03	5.53	.17	0	1.33	.01	.09	.09	.03	.02	2.45	.33	9.73	29.95	.44	.10	0	.53	30.47	.40	1.10	31.97	.02	83
Moderately grazed	15	15.68	.14	7.97	.01	23.76	0	.26	.28	1.49	.26	.14	1.06	0	.05	.11	.02	T	2.20	.78	6.63	30.40	.06	.02	0	.07	30.47	1.35	1.90	33.21	.06	11
Heavily grazed	10	21.05	.32	20.27	0	41.63	0	.03	.02	1.53	.02	0	.46	.01	.05	.14	0	0	2.09	.02	4.34	45.96	.46	0	.03	.49	46.45	.51	.28	47.24	.54	27
All quadrats	50	16.33	.22	9.81	T	26.34	T	.42	.14	2.15	.12	.03	.91	T	.05	.08	1.13	.07	2.33	.35	6.66	33.01	.37	.03	.01	.41	33.41	.58	1.17	35.16	.21	34

* Total vegetation includes all species except annual forbs.

** Number of uncharted annuals per square meter

T denotes a trace or less than .01 percent.

Bg-Bouteloua gracilis (Blue grama), Bh-Bouteloua hirsuta(Hairy grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Apa-Agropyron pauciflorum (Slender wheat grass), Asm-Agropyron smithii (Western wheat grass), Af-Andropogon furcatus (Big Bluestem), As-Andropogon scoparius (Little Bluestem), Al-Aristida longiseta (Wire grass), Bc-Bouteloua curtipendula (Side oats grama), Clo-Calamovilfa longifolia (Long-leaved reed grass), Hj-Hordeum jubatum (Squirrel-tail), Ps-Panicum scribnerianum, Pv-Panicum virgatum (Switch grass), Se-Sphenopholis obtusata (Prairie wedge grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), Sco-Stipa comata (Needle grass), Fe-Festuca octoflora (Slender fescue), Pc-Panicum capillare (Witch grass), Sne-Sporobolus neglectus (Small rush grass).

Additional footnote for Table_____.

Bg-Bouteloua gracilis (Blue grama), Bh-Bouteloua hirsuta (Hairy grama), Bd-Buchloe dactyloides (Buffalo grass), Sp- Schedonnardus paniculatus (Tumble grass), Apa-Agropyron pauciflorum (Slender wheat grass), Af-Andropogon furcatus (Big Bluestem), Al-Aristida longiseta (Wire grass), Clo-Calamovilfa longifolia (Long-leaved reed grass), Hj-Hordeum jubatum (Squirrel-tail), Psp-Panicum species, Pv-Panicum virgatum (Switch grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), Rf-Redfieldia flexuosa (Blow-out grass), Sco-Stipa comata (Needle grass), Bt-Bromus tectorum (Downy Brome), Fo-Festuca octoflora (Slender Fescue), H-Hordeum pusillum (Little barley), Ms-Munroa squarrosa (False buffalo grass), Pc-Panicum capillare (Witch grass), Ssp-Setaria species, Sv-Setaria viridis (Green foxtail) and Ua-unknown annual grass.

Table_____. Percentage of ground surface occupied by grasses, forbs and sedges on ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity Akron, Colorado, as charted with pantographs in June, 1935.

Grazing treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bh	Bd	Sp	Total	Tall grasses: Apa	Asm	Af	Al	Clo	Hj	Psp	Pv	Rf	Sa	Sc	Sco	Total	Total Pere.	Annual grasses: Bt	Fo	H	Ms	Pc	Ssp	Sv	Ua	Total	Total all grass	Total forbs Per.& Bien.	Total sedges	Total vegetation*	Annual forbs: Charted	Counted	Estimated	No. of seedlings per meter: Bg	Bd
Clay Loam, 50 miles S.W. of Akron, near Last Chance																																						
Heavily grazed																																						
Sheep pasture	10	7.74	0	8.73	0	16.47	0	0	0	0	0	0	0	0	0	0	0	0	0	16.47	0	.03	0	0	0	0	0	0	.03	16.50	.63	0	17.13	.05	6	—	1	2
Cattle pasture	10	8.50	0	5.73	T	14.23	0	.06	0	0	T	0	0	0	0	.02	T	0	.08	14.31	0	.15	0	0	0	0	0	0	.15	14.46	2.37	0	16.83	.98	18	—	0	0
Average	20	8.12	0	7.23	T	15.35	0	.03	0	0	T	0	0	0	0	.01	T	0	.04	15.39	0	.09	0	0	0	0	0	0	.09	15.48	1.50	0	16.98	.52	12	—	1	1
Silt Loam, Akron Station																																						
Not grazed																																						
R.R. right of way	10	16.37	0	1.47	T	17.84	0	0	0	0	0	0	0	.02	0	0	0	0	.02	17.86	.02	.03	.02	0	.05	0	0	T	.12	17.98	.73	.02	18.73	.11	—	M	0	0
Moderately grazed																																						
Deferred pasture	10	2.06	0	6.16	0	8.22	0	0	0	.06	0	0	0	0	0	.26	.24	0	.56	8.78	0	.06	.02	.03	.05	0	0	0	.16	8.94	.39	4.39	13.72	.29	111	---	0	0
Heavily grazed																																						
Horse pasture	10	5.29	0	5.35	0	10.64	0	0	0	T	0	0	0	0	0	0	0	0	0	10.64	0	.05	0	0	0	0	0	0	.05	10.69	.15	.06	10.90	.02	---	M	2	4
Sheep pasture	10	5.18	T	5.52	T	10.70	0	0	0	.02	0	0	0	0	0	.05	0	0	.07	10.77	0	.13	0	T	0	.02	.02	0	.17	10.94	.08	1.35	12.37	.02	—	N	0	0
Sheep pasture	10	.02	0	16.52	0	16.54	0	0	0	.23	0	0	0	0	0	.06	.32	0	.61	17.15	0	.08	0	.06	T	0	0	0	.14	17.29	.08	.06	17.43	.82	76	---	0	0
Average	30	3.50	T	9.13	T	12.63	0	0	0	.08	0	0	0	0	0	.04	.11	0	.23	12.85	0	.09	0	.02	T	.01	.01	0	.12	12.97	.10	.49	13.57	.29	76	N	1	1
Very heavily grazed	10	6.44	0	4.50	0	10.94	0	0	0	0	0	0	0	0	0	0	.06	0	.06	11.00	0	T	0	.02	0	0	0	0	.02	11.02	.02	.02	11.06	1.26	---	M	0	1
All grazed areas	50	4.00	T	6.60	T	10.60	0	0	0	.05	0	0	0	0	0	.10	.14	0	.28	10.88	0	.05	.01	.02	.02	T	T	0	.10	10.98	.17	1.63	12.78	.61	94	M	T	T
All areas	60	7.09	T	5.32	T	12.41	0	0	0	.04	0	0	0	.01	0	.08	.10	0	.22	12.62	.01	.05	.01	.01	.03	T	T	T	.11	12.73	.31	1.23	14.27	.49	94	M	T	T
Cultivated field, abandoned in 1908	10	.02	0	5.50	.06	5.58	.02	0	0	.31	0	T	.02	.02	0	.23	1.31	0	1.91	7.49	0	.15	.18	.85	.02	0	0	0	1.20	8.69	.16	.02	8.87	1.34	—	VN	0	0
Loamy Sand, 10 miles north of Akron																																						
Not grazed																																						
Hay meadow	10	1.92	1.74	T	0	3.66	.03	.26	.34	0	.87	0	.02	.42	0	.05	.34	3.08	5.41	9.07	0	0	0	0	0	0	0	0	0	9.07	1.92	.97	11.96	.03	5	---	0	0
Moderately grazed	10	6.42	0	0	0	6.42	0	0	.10	0	1.37	0	0	.03	0	T	.26	.53	2.29	8.71	0	.02	0	0	0	0	0	0	.02	8.73	.52	.20	9.45	1.11	15	---	0	0
Heavily grazed	10	4.95	.16	0	0	5.11	0	.10	0	T	.37	0	0	0	0	.11	.90	.29	1.77	6.88	0	T	0	.10	0	0	0	0	.10	6.98	1.45	.02	8.45	.82	105	---	0	0
All grazed areas	20	5.69	.08	0	0	5.77	0	.05	.05	T	.87	0	0	.02	0	.06	.58	.41	2.03	7.80	0	.01	0	.05	0	0	0	0	.06	7.86	.99	.11	8.95	.97	60	---	0	0
All areas	30	4.43	.63	T	0	5.06	.01	.12	.15	T	.87	0	.01	.15	0	.05	.50	1.30	3.16	8.22	0	.01	0	.03	0	0	0	0	.04	8.26	1.29	.40	9.95	.65	42	---	0	0
Dune Sand, 18 miles N.W. of Akron																																						
Heavily grazed																																						
Sage-sand type																																						
Ankle's pasture	5	2.69	0	0	0	2.69	.15	.48	.11	0	.11	0	0	0	0	0	.31	.31	1.47	4.16	0	T	0	0	0	0	0	0	T	4.16	2.16	.05	6.37	.02	147	---	0	0
Stockwell's pasture	5	4.13	.02	0	0	4.15	.27	.02	.18	0	.94	0	0	0	0	T	.92	.37	2.70	6.85	0	0	0	0	0	0	0	0	0	6.85	3.02	.32	10.19	.05	48	---	0	0
Average	10	3.41	.01	0	0	3.42	.21	.25	.15	0	.53	0	0	0	0	T	.62	.34	2.09	5.51	0	T	0	0	0	0	0	0	T	5.51	2.59	.19	8.28	.04	98	---	0	0
Yucca-sand type																																						
Ankle's pasture	5	1.29	.13	0	0	1.42	.05	0	0	0	.26	0	0	0	.18	.03	.02	.03	.57	1.99	0	0	0	0	0	0	0	0	0	1.99	.87	.03	2.89	.06	98	---	0	0
Stockwell's pasture	10	1.00	.02	0	0	1.02	.05	T	.03	0	.02	0	0	0	.08	T	.08	.19	.45	1.47	0	0	0	0	0	0	0	0	0	1.47	3.29	.06	4.82	.05	103	---	0	0
Average	15	1.15	.08	0	0	1.22	.05	T	.02	0	.14	0	0	0	.13	.02	.05	.11	.51	1.73	0	0	0	0	0	0	0	0	0	1.73	2.08	.05	3.86	.05	101	---	0	0
Average heavily grazed	25	2.28	.05	0	0	2.32	.13	.13	.09	0	.34	0	0	0	.07	.01	.34	.23	1.30	3.62	0	T	0	0	0	0	0	0	T	3.62	2.34	.12	6.08	.05	100	---	0	0
All Soil Types																																						
Grand average																																						
Not grazed	20	9.15	.87	.74	T	10.75	.02	.13	.17	0	.44	0	.01	.22	0	.03	.17	1.54	2.72	13.47	.01	.02	.01	0	.02	0	0	T	.06	13.53	1.33	.50	15.35	.07	5	M	0	0
Moderately grazed	20	4.24	0	3.08	0	7.32	0	0	.05	.03	.69	0	0	.02	0	.13	.25	.27	1.43	8.75	0	.04	.01	.02	.03	0	0	0	.09	8.84	.46	2.30	11.59	.70	63	---	0	0
Heavily grazed	85	4.71	.05	4.09	T	8.85	.03	.06	.02	.02	.18	0	0	0	.02	.04	.34	.13	.84	9.69	0	.05	0	.03	T	T	T	0	.08	9.76	1.35	.16	11.27	.42	73	M	1	1
Very heavily grazed	10	6.44	0	4.50	0	10.94	0	0	0	0	0	0	0	0	0	0	.06	0	.06	11.00	0	T	0	.02	0	0	0	0	.02	11.02	.02	.02	11.06	1.26	---	M	0	1
All grazed areas	115	4.82	.03	3.86	T	8.71	.02	.04	.01	.02	.30	0	0	T	.01	.06	.27	.15	.89	9.60	0	.04	T	.02	T	T	T	0	.07	9.68	.90	.75	11.33	.62	70	M	T	1
All areas **	135	5.78	.22	3.17	T	9.17	.02	.05	.07	.02	.33	0	T	.05	.01	.05	.25	.46	1.30	10.46	T	.03	T	.02	.01	T	T	T	.07	10.53	1.00	.69	12.22	.50	61	M	T	T

* Total vegetation includes all species, except annual forbs. T-indicates a trace or less than .01 percent, M-many, N-numerous. ** This does not include the cultivated field abandoned in 1908.

Table_____. Percentage of total vegetation* contributed by different species and classes of herbacious vegetation as indicated by the relative ground cover on ungrazed, moderately grazed and heavily grazed areas in the vicinity of Hays, Kansas in May, 1935.

Grazing or clipping and watering treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bd	Total	Tall grasses: Asm	As	Al	Bc	Sc	Total	Total Pere.	Annual grasses: Cv	Fo	H	Total	Total all grass	Total forbs Per.& Bien.	Total sedges
Silty Clay Loam Soil																		
Dry Land Lawns:																		
Clipped 1/2 in.	2	8.0	91.7	99.7	0	0	0	0	0	0	99.7	0	0	0	0	99.7	.3	0
Clipped 1 1/4 in.	8	30.4	67.3	97.7	.3	.1	0	0	.6	1.0	98.7	0	0	0	0	98.7	.3	1.0
Clipped 2 in.	2	44.6	53.0	97.6	.7	0	0	0	1.5	2.2	99.8	0	.1	0	.1	99.9	.1	0
Cut twice yrly. 1 1/4 in.	2	39.6	57.1	96.7	1.2	0	0	0	2.0	3.2	99.9	0	0	0	0	99.9	0	0
Not cut	2	38.2	39.1	77.3	3.7	0	0	0	.7	4.4	81.7	0	0	0	0	81.7	18.3	0
Average dry land lawns	16	32.2	61.6	93.8	1.2	T	0	0	.6	2.2	96.0	0	T	0	T	96.0	3.8	.2
Lightly Watered Lawns:																		
Clipped 1/2 in.	2	5.9	93.2	99.1	.2	0	0	0	0	.2	99.3	0	0	T	T	99.3	.7	0
Clipped 1 1/4 in.	2	15.9	84.1	100.0	0	0	0	0	0	0	100.0	0	0	0	0	100.0	T	0
Clipped 2 in.	2	22.1	73.8	95.9	.5	0	2.8	0	0	3.3	99.2	.4	0	.1	.5	99.7	.3	0
Cut twice yrly. 1 1/4 in.	2	41.6	52.3	93.9	1.4	0	.8	0	1.4	3.6	97.5	0	0	1.9	1.9	99.4	.6	0
Not cut	2	38.6	48.1	86.7	1.1	0	2.8	0	0	3.9	90.6	0	0	2.7	2.7	93.3	6.6	.4
Average lightly watered lawns	10	24.8	70.3	95.1	.6	0	1.3	0	.3	2.2	97.3	.1	0	.9	1.0	98.3	1.6	.1
Heavily Watered Lawns:																		
Clipped 1/2 in.	2	1.5	97.8	99.3	.1	0	0	0	0	.1	99.4	.1	0	.1	.2	99.6	.3	0
Clipped 1 1/4 in.	2	14.0	84.6	98.6	0	0	0	0	0	0	98.6	.2	0	.9	1.1	99.7	.3	0
Clipped 2 in.	2	33.9	62.4	96.3	T	0	.1	1.0	0	1.1	97.4	0	0	.4	.4	97.8	2.1	0
Cut twice yrly. 1 1/4 in.	2	24.5	65.2	89.7	.1	0	0	0	.2	.3	90.0	.7	.2	8.5	9.4	99.4	.5	0
Not cut	2	37.7	53.6	91.3	0	0	4.1	0	.3	4.4	95.7	0	.2	.9	1.1	96.8	3.2	0
Average heavily watered lawns	10	22.3	72.7	95.0	T	0	.8	.2	.1	1.2	96.2	.2	.1	2.2	2.4	98.7	1.3	0
Average All Lawns:																		
Clipped 1/2 in.	6	5.1	94.2	99.4	.1	0	0	0	0	.1	99.5	T	0	T	.1	99.5	.4	0
Clipped 1 1/4 in.	12	20.1	78.7	98.8	.1	T	0	0	.2	.3	99.1	.1	0	.3	.4	99.5	.2	.3
Clipped 2 in.	6	33.5	63.1	96.6	.4	0	1.0	.3	.5	2.2	98.8	.1	T	.2	.3	99.1	.8	0
Cut twice yrly. 1 1/4 in.	6	35.2	58.2	93.4	.9	0	.3	0	1.3	2.4	95.8	.2	.1	3.5	3.8	99.6	.4	0
Not cut	6	38.2	46.9	85.1	1.6	0	2.3	0	.3	4.2	89.3	0	.1	1.2	1.3	90.6	9.4	.1
Average all watering and clipping treatments	36	26.4	68.2	94.6	.6	0	.7	.1	.3	1.9	96.5	.1	T	1.0	1.1	97.7	2.2	.1
Moderately grazed:	6	40.6	58.7	99.3	.5	0	0	0	0	.5	99.8	0	0	0	0	99.8	.3	0
Heavily grazed:																		
First location	12	34.3	64.9	99.2	0	0	0	0	.8	.8	100.0	0	0	0	0	100.0	0	0
Second location	9	28.1	64.6	92.7	T	0	.1	0	.4	.5	93.2	T	0	6.5	6.5	99.7	.2	0
Average heavily grazed	21	31.2	64.8	96.0	T	0	.1	0	.6	.7	96.6	T	0	3.3	3.3	99.9	.1	0
Grand Average:																		
All grazed areas	27	35.9	61.8	97.7	.3	0	.1	0	.3	.6	98.2	T	0	1.7	1.7	99.9	.2	0
All treatments except watering	43	34.7	61.7	96.4	.6	T	T	0	.4	1.1	97.5	T	T	1.1	1.1	98.6	1.4	.1
All treatments, including watering	63	30.2	65.6	95.8	.5	T	.4	T	.3	1.4	97.2	.1	T	1.1	1.1	98.5	1.4	.1

* Total vegetation includes all species of vegetation, except annual forbs.

T-trace or less than .1 percent.

Bg-Bouteloua gracilis (Blue grama), Bd-Buchloe dactyloides (Buffalo grass), Asm-Agropyron smithii (Western wheat grass), As-Andropogon scoparius (Little Bluestem), Al-Aristida longiseta (Wire grass), Bc-Bouteloua curtipendula (Side oats grama), Sc-Sporobolus cryptandrus (Sand dropseed), Cv-Chloris verticillata (Windmill grass), Fo-Festuca octoflora (Slender Feacue), H-Hordeum pusillum (Little barley).

Table_____. Percentage of total vegetation* contributed by different species and classes of herbacious vegetation as indicated by the relative ground cover of ungrazed, moderately grazed and heavily grazed areas on the different types of soil in the vicinity of Dalhart, Texas in June, 1935.

Grazing and clipping treatments	No. of quadrats	Grass species																				Total forbs Per.& Bien.
		Perennial grasses															Annual grasses					
		Short grasses						Tall grasses								Total Pere.					Total all grass	
		Bg	Bh	Bd	Sp	Tp	Total	Asa	As	Al	Bc	Sn	Sc	Spsp	Total		Cv	Fo	H	Pc	Total	
Clay Loam Soil (30 miles east of Dalhart)																						
Moderately grazed																						
North of Etter	10	32.9	0	58.1	.1	0	91.1	0	0	0	0	0	1.4	0	1.4	92.5	0	.5	.4	0	.9	93.4	6.6
Heavily grazed																						
North of Etter	10	53.1	0	44.1	.3	0	97.5	0	0	0	0	0	.3	0	.3	97.8	0	0	0	0	0	97.8	2.1
East of Erum	10	T	0	T	0	0	T	0	0	0	0	0	0	0	0	T	0	0	0	0	0	T	T
Ave. heavily grazed	20	53.1	0	44.1	.3	0	97.5	0	0	0	0	0	.3	0	.3	97.8	0	0	0	0	0	97.8	2.1
Average all grazed areas	30	43.0	0	51.1	.2	0	94.3	0	0	0	0	0	.9	0	.9	95.2	0	.3	.2	0	.5	95.6	4.4
Silty Clay Loam Soil (10 to 15 miles N.E. of Dalhart)																						
Not grazed for 6 years	10	52.2	0	44.3	1.0	.5	98.0	0	0	0	0	0	0	0	0	98.0	0	.4	0	0	.4	98.4	1.7
Moderately grazed																						
Richfield soil	10	37.5	0	34.4	0	0	71.9	0	0	0	0	0	3.1	0	3.1	75.0	0	T	0	0	T	75.0	25.0
Pullman soil	10	37.6	0	61.2	.1	0	98.9	0	0	0	0	0	.1	0	.1	99.0	0	.4	T	0	.4	99.4	.6
Ave. Mod. grazed	20	37.6	0	47.8	.1	0	85.4	0	0	0	0	0	1.6	0	1.6	87.0	0	.2	T	0	.2	87.2	12.8
Average all areas	30	44.9	0	46.1	.6	.3	91.7	0	0	0	0	0	.8	0	.8	92.5	0	.3	T	0	.3	92.8	7.3
Sandy Loam Soil (In vicinity of Dalhart Station)																						
Not grazed																						
Lightly clipped	10	85.4	0	4.5	0	0	89.9	0	0	.6	0	0	4.9	0	5.5	95.4	0	0	0	0	0	95.4	4.4
Closely clipped	5	55.9	.1	41.6	1.9	0	99.5	0	0	.3	.2	0	0	0	.5	100.0	0	0	0	0	0	100.0	.1
Average not grazed	15	70.7	.1	23.2	1.0	0	94.7	0	0	.5	.1	0	2.5	0	3.0	97.7	0	0	0	0	0	97.7	2.3
Moderately grazed																						
Rouse's pasture	10	78.6	0	17.3	.9	0	96.8	0	0	1.0	0	0	1.6	0	2.6	99.4	0	0	0	0	0	99.4	.6
Heavily grazed																						
Dalhart Station	10	50.2	0	40.2	.6	T	91.0	0	0	T	.2	0	5.9	0	6.1	97.1	0	.2	0	0	.2	97.3	2.7
Average all grazed areas	20	64.4	0	28.8	.8	T	93.9	0	0	.5	.1	0	3.8	0	4.4	98.3	0	.1	0	0	.1	98.4	1.7
Average all areas	35	66.5	T	26.9	.8	T	94.2	0	0	.5	.1	0	3.3	0	3.9	98.1	0	.1	0	0	.1	98.1	1.9
Sand																						
Sage-sand type																						
Med. grazed	20	56.6	8.3	0	.2	0	65.1	0	1.0	.5	15.3	.2	1.9	.2	19.1	84.2	0	1.0	0	T	1.0	85.2	14.8
Yucca-sand type																						
Heavily grazed	10	T	2.0	0	.2	20.5	22.7	.9	0	60.1	3.9	0	1.4	0	66.3	89.0	.2	0	0	0	.2	89.2	10.6
Average both sand types	30	28.3	5.2	0	.2	10.3	43.9	.5	.5	30.3	9.6	.1	1.7	.1	42.7	86.6	.1	.5	0	T	.6	87.2	12.7
All Soil Types																						
Sand average																						
Not grazed	25	61.5	.1	33.8	1.0	.3	96.4	0	0	.3	.1	0	1.3	0	1.5	97.9	0	.2	0	0	.2	98.1	2.0
Med. grazed	60	51.4	2.1	30.8	.3	.1	84.6	0	.3	.4	3.8	.1	1.6	.1	6.2	90.8	0	.4	.1	T	.5	91.3	8.7
Heavily grazed	40	34.4	.7	28.1	.4	6.8	70.4	.3	0	20.0	1.4	0	2.5	0	24.2	94.6	.1	.1	0	0	.1	94.8	5.1
All grazed areas	100	44.1	1.5	29.6	.3	2.9	78.5	.1	.1	8.8	2.8	T	2.0	T	13.9	92.4	T	.3	.1	T	.4	92.8	7.2
All areas	125	48.0	1.2	30.7	.5	2.3	82.5	.1	.1	6.9	2.2	T	1.8	T	11.2	93.6	T	.3	T	T	.3	94.0	6.0

*g-Bouteloua gracilis (Blue grama), Bh-Bouteloua hirsuta (Hairy grama) Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Tp-Triodia pilosa (Hairy Triodia), Asa-Andropogon saccharoides (Torrey's Beard grass), As-Andropogon scoparius (Little Bluestem), Al-Aristida longiseta (Wire grass), Bc-Bouteloua curtipendula (Side oats grama), Sn-Sorghastrum nutans (Indian grass), Sc-Sporobolus cryptandrus (Sand dropseed), Spsp-Sporobolus species, Cv-Chloris verticillata (Windmill grass), Fo-Festuca octoflora (Slender fescue), H-Hordeum pusillum (Little barley), Pc-Panicum capillare (Witch grass).

Table_____. Percentage of total vegetation* contributed by different species and classes of herbacious vegetation as indicated by the relative ground cover of ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity of Garden City, Kansas in June, 1935.

Grazing and special treatment	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bh	Bd	Sp	Total	Tall grasses: Asm	Af	Asa	As	Al	Bc	Psp	Rf	Sn	Sa	Sc	Up	Total	Total Pere.	Annual grasses: Cv	Fe	H	Pc	Total	Total all grass	Total forbs & annual grasses	Total Per. & annual Bien. sedges
Silty Clay Loam Soil (near Kalvesta, Kansas)																												
Not grazed for 8 years	4	48.9	.7	3.8	0	53.4	1.7	2.3	0	0	12.6	18.3	0	.2	0	0	0	0	35.4	88.8	0	0	.1	0	.1	89.9	11.1	0
Moderately grazed																												
Winter's pasture	8	16.6	0	76.7	0	93.3	0	0	0	0	.3	0	0	0	0	0	5.4	0	5.7	99.0	0	T	.3	0	.3	99.3	.8	0
Byler's pasture	4	69.2	0	17.1	0	86.3	0	0	0	.3	3.0	6.9	0	0	0	0	0	0	10.2	96.5	0	0	0	0	0	96.5	3.6	0
Av. moderately grazed	12	42.9	0	46.9	0	89.8	0	0	0	.2	1.7	3.5	0	0	0	0	2.7	0	8.0	97.8	0	T	.2	0	.2	97.9	2.2	0
Heavily grazed	4	28.7	0	71.3	0	100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	100.0	0	0	0	0	0	100.0	0	0
Very heavily grazed	4	39.1	0	55.6	0	94.7	0	0	0	0	T	0	0	0	0	0	.3	0	.3	95.0	0	.3	.7	.3	1.3	96.3	3.6	0
Av. all grazed areas	20	36.7	0	57.9	0	94.8	0	0	0	.1	.6	1.2	0	0	0	0	1.0	0	2.8	97.6	0	.1	.3	.1	.5	98.1	1.9	0
Av. all areas	24	39.9	.2	44.4	0	84.5	.4	.6	0	.1	3.7	5.5	0	.1	0	0	.8	0	10.9	95.4	0	.1	.3	.1	.4	95.8	4.2	0
"Dalhart" Silt Loam Soil (Garden City Station)																												
Not grazed for 14 years	10	79.6	0	5.5	T	85.1	0	0	0	0	0	0	0	0	0	0	0	0	0	85.1	0	0	0	0	0	85.1	14.8	0
Moderately grazed																												
Not watered																												
First location	10	42.5	0	41.7	0	84.2	0	0	0	0	0	.8	0	0	0	0	0	0	.8	85.0	0	0	11.0	0	11.0	96.0	3.9	0
Second location	8	63.9	0	34.7	0	98.6	0	0	0	0	0	0	0	0	0	0	0	0	0	98.6	0	0	0	0	0	98.6	1.4	0
Av. not watered	18	53.2	0	38.2	0	91.4	0	0	0	0	0	.4	0	0	0	0	0	0	.4	91.8	0	0	5.5	0	5.5	97.3	2.7	0
Watered																												
occasionally	4	38.2	0	1.3	0	39.5	0	0	0	0	0	0	0	0	0	0	0	0	0	39.5	0	.2	39.5	0	39.7	79.2	20.8	0
Av. Mod. grazed	22	45.7	0	19.8	0	65.5	0	0	0	0	0	.2	0	0	0	0	0	0	.2	65.7	0	.1	22.5	0	22.6	88.3	11.8	0
Average all areas	32	62.7	0	12.7	T	75.3	0	0	0	0	0	.1	0	0	0	0	0	0	.1	75.4	0	.1	11.3	0	11.3	86.7	13.3	0
"Enterprise" Sand (South of the Arkansas River)																												
Not grazed for many years	4	.3	16.9	.6	0	17.8	0	0	1.2	8.9	T	0	0	3.8	16.3	6.8	8.9	0	45.9	63.7	0	13.3	0	0	13.3	77.0	23.1	0
Moderately grazed																												
Brown's pasture	8	53.9	.6	.2	0	54.7	0	0	0	T	1.1	0	0	0	0	0	25.4	0	26.5	81.2	0	6.5	0	0	6.5	87.7	12.3	0
Moody's pasture	8	1.2	21.9	T	0	23.1	0	3.5	.4	8.2	T	0	.0	2.3	10.5	6.6	14.5	0	46.0	69.1	0	5.5	0	2.3	7.8	76.9	23.0	0
Jones' summer past.	8	21.6	12.5	0	0	34.1	0	2.3	0	4.2	0	4.2	1.9	.2	2.3	.2	4.2	.4	19.9	54.0	T	1.4	0	1.1	2.5	56.5	43.3	.2
Jones' winter past.	8	.9	29.1	0	0	30.0	0	.9	0	16.7	0	2.6	0	0	23.2	1.4	3.8	0	48.6	78.6	0	.8	0	1.8	2.6	81.2	18.7	.2
Ave. Mod. grazed	32	19.4	16.0	.1	0	35.4	0	1.7	.1	7.3	.3	1.7	.5	.6	9.0	2.1	12.0	.1	35.3	70.7	T	3.6	0	1.3	4.9	75.6	24.3	.1
Heavily grazed	8	1.1	34.7	T	0	35.8	0	0	T	3.0	0	0	0	1.1	1.6	4.3	8.9	0	18.9	54.7	0	2.2	.5	0	2.7	57.4	42.7	0
Av. all grazed areas	40	10.3	25.4	.1	0	35.6	0	.9	.1	5.2	.2	.9	.3	.9	5.3	3.2	10.5	.1	27.1	62.7	T	2.9	.3	.7	3.8	66.5	33.5	.1
Av. all areas	44	6.9	22.5	.2	0	29.7	0	.6	.4	6.4	.1	.6	.2	1.8	9.0	4.4	9.9	T	33.4	63.0	T	6.4	.2	.4	7.0	70.0	30.0	T
All Soil Types																												
Grand average																												
Not grazed	18	42.9	5.9	3.3	T	52.1	.6	.8	.4	3.0	4.3	6.1	0	1.3	5.4	2.3	3.0	0	27.1	78.9	0	4.4	T	0	4.5	83.7	16.3	0
Moderately grazed	66	36.0	5.3	22.3	0	63.6	0	.6	T	2.5	.7	1.8	.2	.2	3.0	.7	4.9	T	14.5	78.1	T	1.2	7.6	.4	9.2	87.3	12.8	T
Heavily grazed	12	14.9	17.4	35.6	0	67.9	0	0	T	1.5	0	0	0	.6	.8	2.2	4.5	T	9.5	77.4	0	1.1	.3	0	1.4	78.7	21.4	0
Very heavily grazed	4	39.1	0	55.6	0	94.7	0	0	0	0	T	0	0	0	0	0	.3	0	.3	95.0	0	.3	.7	.3	1.3	96.3	3.6	0
All grazed areas	82	29.5	8.5	32.5	0	70.2	0	.3	T	3.5	.7	.8	.1	.3	.4	1.1	4.0	T	10.5	80.7	T	1.0	4.0	.3	5.3	85.8	16.1	T
All areas	100	34.0	7.6	22.6	T	64.2	.2	.4	.1	2.2	1.7	2.6	.1	.6	3.0	1.5	3.6	T	16.0	80.2	T	2.2	2.7	.2	5.0	85.2	14.8	T

* Total vegetation includes all species, except annual forbs. T-denotes a trace or less than .1 percent.

Bg-Bouteloua gracilis (Blue grama), Bh-Bouteloua hirsuta (Hairy grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Asm-Agropyron smithii (Western wheat grass), Af-Andropogon furcatus (Big Bluestem), Asa-Andropogon saccharoides (Torrey's beard grass), As-Andropogon scoparius (Little Bluestem), Al-Aristida longiseta (Wire grass), Bc-Bouteloua curtipendula (Side oats grama), Psp-Panicum species, Rf-Redfieldia flexuosa (Blow-out grass), Sn-Sorghastrum nutans (Indian grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), Up-Unknown perennial, Cv-Chloris verticillata (Windmill grass), Fe-Festuca octoflora (Slender fescue), H-Hordeum pusillum (Little barley), Pc-Panicum capillare (Witch grass).

Table _____. Percentage of total vegetation* contributed by different species and classes of herbacious vegetation as indicated by the relative ground cover of ungrazed, moderately grazed and heavily grazed areas in the vicinity of Tribune, Kansas, in June, 1935.

Grazing and watering treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bd	Total	Tall grasses: Al	Sa	Sc	Total	Total Pere.	Annual H	Total all grass	Total forbs Per.& Bien.	Total sedges
"Colby" Silt Loam Soil													
Not grazed													
Lightly watered lawn	4	5.0	94.8	99.8	0	0	0	0	99.8	T	99.8	.2	0
Dry-land area**	8	86.1	12.5	98.6	0	0	0	0	98.6	0	98.6	1.4	0
Average not grazed	12	45.6	53.7	99.2	0	0	0	0	99.2	T	99.2	.8	0
Moderately grazed													
Cattle-horse pasture													
High land	8	52.2	46.0	98.2	0	0	0	0	98.2	0	98.2	1.9	0
Low land	8	7.7	83.8	91.5	0	1.7	0	1.7	93.2	0	93.2	6.8	0
Av. cattle pasture	16	30.0	64.9	94.9	0	.9	0	.9	95.7	0	95.7	4.4	0
Cattle-pasture													
High land	8	62.7	37.3	100.0	T	0	0	T	100.0	0	100.0	0	0
Low land	8	66.7	33.3	100.0	0	0	0	0	100.0	0	100.0	0	0
Av. cattle pasture	16	64.7	35.3	100.0	T	0	0	T	100.0	0	100.0	0	0
Sheep pasture	8	58.9	39.2	98.1	.3	0	.6	.9	99.0	0	99.0	.9	0
Average moderately grazed	40	51.2	46.5	97.7	.1	.3	.2	.6	98.2	0	98.2	1.8	0
Heavily grazed													
Small horse pasture													
High land	8	43.6	56.4	100.0	0	0	0	0	100.0	0	100.0	T	0
Low land (flooded June 6, 1932)	8	42.3	55.3	97.6	0	0	.3	.3	97.9	0	97.9	2.0	0
Av. horse pasture	16	43.0	55.9	98.8	0	0	.2	.2	99.0	0	99.0	1.0	0
Large sheep pasture	8	41.4	57.4	98.8	0	0	.1	.1	98.9	0	98.9	1.0	0
Average heavily grazed	24	42.2	56.7	98.8	0	0	.2	.2	99.0	0	99.0	1.0	0
Grand average													
All grazed areas	64	47.6	50.5	98.1	.1	.2	.2	.4	98.5	0	98.5	1.5	0
All areas	76	47.3	51.1	98.3	.1	.2	.2	.4	98.6	T	98.6	1.4	0

* Total vegetation includes all grasses and all perennial and biennial forbs. The important annual forbs were charted, others were estimated.

** Not grazed for eleven years, except in the winter of 1934-35.

T-denotes a trace or less than .1 percent.

Bg-Bouteloua gracilis (Blue grama), Bd-Buchloe dactyloides (Buffalo grass), Al-Aristida longiseta (Wire grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), H-Hordeum pusillum (Little barley).

Table____. Percentage of total vegetation* contributed by different species and classes of herbacious vegetation as indicated by the relative ground cover of ungrazed, moderately grazed and heavily grazed areas in the vicinity of Colby and Rexford, Kansas, in June, 1935

Grazing and watering treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bd	Sp	Total	Tall grasses: Asm	Sa	Sc	Spsp	Total	Total Pere.	Annual grasses: Fo	H	Pc	Ua	Total	Total all grass	Total forbs Per.& Bien.	Total sod-ges
Colby Silt Loam (Medium-heavy texture)																			
In Vicinity of Colby Station																			
Not grazed																			
Dry land area, ungrazed for 3 years	8	30.8	41.4	0	72.2	0	T	1.0	0	1.0	73.2	0	1.0	.3	8.5	9.8	83.0	3.7	13.2
Lawn watered in fall 1934	6	22.7	66.8	1.9	91.4	0	3.1	2.3	0	5.4	96.8	0	.5	T	0	.5	97.3	.5	2.1
Average not grazed	14	26.8	54.1	1.0	81.8	0	1.6	1.7	0	3.2	85.0	0	.8	.2	4.3	5.2	90.2	2.1	7.7
Moderately grazed																			
First location	8	51.6	34.6	0	86.2	0	0	3.9	0	3.9	90.1	0	.4	T	6.1	6.5	96.6	2.0	1.2
Second location	8	52.3	38.8	0	91.1	0	0	.3	T	.3	91.4	0	T	T	6.3	6.3	97.7	2.3	T
Average mod. grazed	16	52.0	36.7	0	88.7	0	0	2.1	T	2.1	90.8	0	.2	T	6.2	6.4	97.2	2.2	.6
Heavily grazed																			
East of Colby Station	8	3.2	61.0	0	64.2	0	0	19.3	0	19.3	83.5	0	1.8	.9	10.1	12.8	96.3	.5	3.2
Average all grazed areas	24	27.6	48.9	0	76.5	0	0	10.7	T	10.7	87.2	0	1.0	.5	8.2	9.6	96.8	1.4	1.9
Average all areas	38	27.3	50.6	.3	78.2	0	.5	7.7	T	8.2	86.4	0	.9	.4	6.9	8.1	94.6	1.6	3.8
On Foster Farms (20 miles N.E. of Colby, Kansas)																			
Moderately grazed	5	29.2	67.8	T	97.0	0	0	1.3	0	1.3	98.3	.2	1.1	0	.1	1.4	99.7	.3	0
Heavily grazed	5	19.6	76.7	T	96.3	1.0	0	T	0	1.0	97.3	.5	1.6	T	0	2.1	99.4	.4	.2
Very heavily grazed	5	15.9	82.2	T	98.1	.5	0	.1	0	.6	98.7	.1	1.3	0	0	1.4	100.0	T	0
Ave. all grazed areas near Rexford	15	21.6	75.6	T	97.1	.5	0	.5	0	1.0	98.1	.3	1.3	T	T	1.6	99.7	.2	.1
Grand average, all locations																			
Not grazed	14	26.8	54.1	1.0	81.8	0	1.6	1.7	0	3.2	85.0	0	.8	.2	4.3	5.2	90.2	2.1	7.7
Moderately grazed	21	40.6	52.3	T	92.9	0	0	1.7	T	1.7	94.6	.1	.7	T	3.2	3.9	98.5	1.3	.3
Heavily grazed	13	11.4	68.9	T	80.3	.5	0	9.7	0	10.2	90.4	.3	1.7	.5	5.1	7.5	97.9	.5	1.7
Very heavily grazed	5	15.9	82.2	T	98.1	.5	0	.1	0	.6	98.7	.1	1.3	0	0	1.4	100.0	T	0
All grazed areas	39	24.0	64.9	T	88.9	.3	0	4.6	T	4.9	93.7	.2	1.2	.2	3.3	4.8	98.5	.7	.8
All areas	53	24.5	63.1	.2	87.7	.3	.3	4.1	T	4.6	92.3	.1	1.1	.2	3.5	4.9	97.1	.9	2.0

*-Total vegetation includes all species of vegetation, except annual forbs.
T-denotes a trace or less than .1 percent.
Bg-Bouteloua gracilis (Blue grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumblegrass)
Asm-Agropyron smithii (Western wheat grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), Spsp-Sporobolus species, Fo-Festuca octoflora (Slender fescue), H-Hordeum pusillum (Little barley), Pc-Panicum capillare (Witch grass), Ua-Unknown annual.

Table_____. Percentage of total vegetation* contributed by different species and classes of herbaceous vegetation as indicated by the relative ground cover of ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity of Woodward, Oklahoma, in May, 1935.

Grazing treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bd	Sp	Tp	Total	Tall grasses: Af	As	Al	Bc	Ps	Sc	Total	Total Pere.	Annual grasses: Cv	Fo	H	Sne	Total	Total all grass	Total forbs Per.& Bien.
Silty Clay Loam Soil																					
Heavily grazed	13	12.9	73.6	.2	0	86.7	0	.1	1.3	10.1	0	T	11.5	98.2	.3	.2	0	0	.5	98.7	1.3
Very heavily grazed	10	3.1	90.5	.7	0	94.3	.1	0	.4	2.5	0	.3	3.3	97.6	.1	.2	0	.1	.4	98.0	2.0
Average	23	8.0	82.1	.5	0	90.5	.1	.1	.9	6.3	0	.2	7.4	97.9	.2	.2	0	.1	.5	98.4	1.7
Sandy Loam Soil																					
Not grazed	5	35.0	48.3	0	0	83.3	0	0	0	0	T	7.6	7.6	90.9	0	0	8.1	0	8.1	99.0	1.0
Very moderately grazed	5	46.7	29.7	0	T	76.4	.3	0	.4	T	0	4.6	5.3	81.7	0	.1	14.7	0	14.8	96.5	3.3
Average	10	40.9	39.0	0	T,	79.9	.2	0	.2	T	T	6.1	6.5	86.3	0	.1	11.4	0	11.5	97.8	2.2
Both Types of Soil																					
Grand Average																					
All grazed areas	28	20.9	64.6	.3	T	85.8	.1	T	.7	4.2	0	1.6	6.7	92.5	.1	.2	4.9	T	5.2	97.7	2.2
All areas	33	24.4	60.5	.2	T	85.2	.1	T	.5	3.2	T	3.1	6.9	92.1	.1	.1	5.7	T	6.0	98.1	1.9

* Total vegetation includes all species, except annual forbs.
T-indicates a trace or less than .1 percent.
Bg-Bouteloua gracilis (Blue grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Tp-Triodia pilosa (Hairy Triodia), Af-Andropogon furcatus (Big Bluestem), As-Andropogon scoparius (Little Bluestem), Bc-Bouteloua curtipendula (Side oats grama), Ps-Panicum scribnerianum, Sc-Sporobolus cryptandrus (Sand dropseed), Cv-Chloris verticillata (Windmill grass), Fo-Festuca octoflora (Slender Fescue), H-Hordeum pusillum (Little barley), Sne-Sporobolus neglectus (Small rush grass),, Al-Aristida longiseta (Wire grass).

Table_____. Percentage of total vegetation* contributed by different species and classes of herbacious vegetation as indicated by the relative ground cover of ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity of North Platte, Nebraska, in June, 1935.

Grazing treatments	No. of quadrats	Grass species: Perennial grasses: Short grasses: Bg	Bh	Bd	Sp	Total	Tall grasses: Apa	Asm	Af	As	Al	Bc	Clo	Hj	Ps	Pv	Sa	Sa	Sc	Sco	Total	Total Pere.	Annual grasses: Fe	Po	Sno	Total	Total all grass	Total forbs Per.& Bien.	Total sedges
"Colby" Very Fine Sandy Loam Soil (In vicinity of North Platte Station)																													
Not grazed for 8 years	5	67.9	0	20.4	0	88.3	0	6.0	0	0	.2	0	0	0	T	0	0	1.3	.1	0	7.6	95.9	2.7	0	0	2.7	98.5	.8	.4
Very moderately grazed																													
Level upland	5	60.0	0	34.1	T	94.1	0	.2	0	0	.3	0	0	.1	0	0	0	.2	.3	0	1.1	95.2	.8	0	0	.8	96.0	.3	3.6
Sloping hill top	5	39.0	0	26.2	0	65.2	0	.9	0	23.2	2.2	0	0	0	0	0	0	T	.1	3.6	30.0	95.2	1.9	0	0	1.9	97.1	1.2	1.6
Ave. V. Mod. grazed	10	49.5	0	30.2	T	79.7	0	.6	0	11.6	1.3	0	0	.1	0	0	0	.1	.2	1.8	15.6	95.2	1.4	0	0	1.4	96.6	.8	2.6
Moderately grazed																													
Nearly level upland	5	52.7	0	41.6	0	94.3	0	.9	0	0	.9	0	0	0	0	0	0	T	.3	3.0	5.1	99.4	.2	0	0	.2	99.6	.2	.1
Sloping hill top	5	27.6	.1	45.3	.1	73.1	0	0	0	3.3	2.0	1.7	0	0	0	0	0	T	1.6	4.3	13.1	86.0	.3	0	0	.3	86.3	.8	12.7
Ave. Mod. grazed	10	40.2	.1	43.5	.1	83.7	0	.5	0	1.7	1.5	.9	0	0	0	0	0	T	1.1	3.7	9.2	93.0	.3	0	0	.3	93.0	.5	6.4
Heavily grazed for 25 years	5	39.1	0	59.4	.1	98.6	0	.1	0	0	T	0	0	T	0	0	0	0	T	0	.1	98.7	.6	0	.1	.7	99.4	.5	T
Ave. all grazed areas	25	42.9	T	44.4	.1	87.3	0	.4	0	4.4	.9	.3	0	T	0	0	0	T	.4	1.8	8.3	95.6	.8	0	T	.8	96.3	.6	3.0
Ave all areas	30	48.9	T	38.4	T	87.6	0	1.8	0	3.3	.8	.2	0	T	0	0	0	.4	.4	1.4	8.1	95.7	1.3	0	T	1.3	96.9	.7	2.4
"Valentine" Loamy Sand to Dune Sand (Ten miles north of North Platte)																													
Not grazed	5	24.1	0	0	0	24.1	T	T	3.0	.5	.1	0	16.2	0	T	0	0	0	31.9	3.3	55.0	79.1	.1	0	0	.1	79.2	4.2	16.5
Very Mod. grazed	5	28.2	2.6	11.3	0	42.1	0	.6	T	26.1	T	0	5.4	0	.6	.6	T	0	15.6	.6	49.5	91.6	1.5	.6	0	2.1	93.7	2.0	4.1
Moderately grazed	5	58.6	.9	0	0	59.5	0	1.2	2.0	8.9	0	0	7.7	0	.4	.8	.2	0	14.8	.9	36.9	96.4	.1	.1	0	.2	96.6	1.5	1.7
Heavily grazed	5	58.6	2.2	0	0	60.8	0	0	.1	11.6	T	0	3.5	0	.4	1.0	0	0	15.8	.1	32.5	93.3	1.8	0	0	1.8	95.1	2.6	2.1
Ave. all grazed areas	15	48.5	1.9	3.8	0	54.1	0	.6	.7	15.5	T	0	5.5	0	.5	.8	.1	0	15.4	.5	39.6	93.8	1.1	.2	0	1.4	95.1	2.0	2.6
Ave. all areas	20	42.4	1.4	2.8	0	46.6	0	.5	1.3	11.8	T	0	8.2	0	.4	.6	.1	0	19.5	1.2	43.5	90.1	.9	.2	0	1.1	91.2	2.6	6.1
Both Types of Soil																													
Grand average																													
Not grazed	10	46.0	0	10.2	0	56.2	T	3.0	1.5	.3	.2	0	8.1	0	T	0	0	.7	16.0	1.7	31.3	87.5	1.4	0	0	1.4	88.9	2.5	8.5
Very Mod. grazed	15	38.9	0	20.8	T	60.9	T	6.0	T	18.9	.7	0	2.7	.1	.3	.3	T	.1	7.9	1.2	32.6	93.4	1.4	0	0	1.8	95.2	1.4	3.4
Moderately grazed	15	49.4	.5	21.8	.1	71.6	T	.9	1.0	5.3	.8	.5	3.9	0	.2	.4	.1	T	8.0	2.3	23.1	94.7	.2	0	0	.3	94.8	1.0	4.1
Heavily grazed	10	48.9	1.1	29.7	.1	79.7	T	.1	.1	5.8	T	0	1.8	T	.2	.5	0	0	7.9	.1	16.3	96.0	1.2	0	.1	1.3	97.3	1.6	2.1
All quadrats	50	45.8	.7	20.6	T	67.1	T	1.1	.6	7.6	3.9	.1	4.1	T	.2	.3	.1	.2	9.9	1.3	25.8	92.9	1.2	.1	T	1.2	94.0	1.6	4.2

* Total vegetation includes all species, except annual forbs. T-denotes a trace or less than .1 percent.

Bg-Bouteloua gracilis (Blue grama), Bh-Bouteloua hirsuta (Hairy grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Apa-Agropyron pauciflorum (Slender wheat grass), Asm-Agropyron smithii (Western wheat grass), Af-Andropogon furcatus (Big Bluestem), As-Andropogon scoparius (Little Bluestem), Al-Aristida longiseta (Wire grass), Bc-Bouteloua curtipendula (Side oats grama), Clo-Calamovilfa longifolia (Long-leaved reed grass), Hj-Hordeum jubatum (Squirreltail), Ps-Panicum scribnerianum, Pv-Panicum virgatum (Switch grass), So-Sphenopholis obtusata (Prairie wedge grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), Sco-Stipa comata (Needle grass), Fo-Festuca octoflora (Slender fescue), Pc-Panicum capillare (Witch grass), Sno-Sporobolus neglectus (Small rush grass).

Table_____. Percentage of total vegetetion* contributed by different species and classes of herbacious vegetetion as indicated by the relative ground cover of ungrazed, moderately grazed and heavily grazed areas on different types of soil in the vicinity of Akron, Colorado, as charted with pantographs in June, 1935.

Grazing treatments	No. of quad-rats	Grass species: Perennial grasses: Short grasses: Bg	Bh	Bd	Sp	Total	Tall grasses: Apa	Asm	Af	Al	Clo	Hj	Psp	Pv	Rf	Sa	Sc	Soo	Total	Total Pere.	Annual grasses: Bt	Fo	H	Ms	Pc	Ssp	Sv	Us	Total	Total all grass	Total forbs Per.& Bien.	Total seed-ges
Clay Loam, 50 miles S.W. of Akron, near Last Chance																																
Heavily grazed																																
Sheep pasture	10	45.2	0	50.9	0	96.1	0	0	0	0	0	0	0	0	0	0	0	0	0	96.1	0	.2	0	0	0	0	0	0	.2	96.3	3.7	0
Cattle pasture	10	50.5	0	34.0	T	84.5	0	.4	0	0	T	0	0	0	0	.1	T	0	.5	85.0	0	.9	0	0	0	0	0	0	.9	85.9	14.1	0
Average	20	47.9	0	42.5	T	90.3	0	.2	0	0	T	0	0	0	0	.1	T	0	.3	90.6	0	.6	0	0	0	0	0	0	.6	91.1	8.9	0
Silt Loam, Akron Station																																
Not grazed																																
R.R. right of way	10	87.5	0	7.8	T	95.3	0	0	0	0	0	0	0	.1	0	0	0	0	.1	95.4	.1	.2	.1	0	.3	0	0	T	.7	96.1	3.9	.1
Moderately grazed																																
Deferred pasture	10	15.0	0	44.9	0	59.9	0	0	0	.5	0	0	0	0	0	1.9	1.8	0	4.2	64.1	0	.5	.1	.2	.4	0	0	0	1.2	65.3	2.8	32.0
Heavily grazed																																
Horse pasture	10	48.5	0	49.1	0	97.6	0	0	0	T	0	0	0	0	0	0	0	0	T	97.6	0	.4	0	0	0	0	0	0	.4	98.0	1.3	.6
Sheep pasture	10	41.9	T	44.6	T	86.5	0	0	0	.1	0	0	0	0	0	0	.4	0	.5	87.0	0	1.0	0	T	0	.1	.1	0	1.2	88.2	.7	11.0
Sheep pasture	10	.1	0	94.7	0	94.8	0	0	0	1 3	0	0	0	0	0	.4	1.9	0	3.6	98.4	0	.5	0	.4	T	0	0	0	.9	99.3	.5	.4
Average	30	30.2	T	62.8	T	93.0	0	0	0	.5	0	0	0	0	0	.1	.7	0	1.3	94.3	0	.6	0	.1	T	T	T	0	.8	95.2	.8	4.0
Very heavily grazed	10	58.2	0	40.7	0	98.9	0	0	0	0	0	0	0	0	0	0	.6	0	.6	99.5	0	T	0	.1	0	0	0	0	.1	99.6	.1	.1
Ave. all grazed areas	50	34.5	T	49.5	T	83.9	0	0	0	.3	0	0	0	0	0	.7	1.0	0	2.0	86.0	0	.4	T	.1	.1	T	T	0	.7	86.7	1.2	12.0
Ave. all areas	60	47.7	T	39.1	T	86.8	0	0	0	.3	0	0	0	T	0	.5	.8	0	1.6	88.3	T	.3	.1	.1	.2	T	T	T	.7	89.1	1.9	9.1
Cultivated field aban-doned in 1908	10	.2	0	62.2	.7	63.1	.2	0	0	3.5	0	T	.2	.2	0	2.6	14.8	0	21.5	84.6	0	1.6	2.0	9.7	.2	0	0	0	13.5	98.1	1.8	.2
Loamy Sand, 10 miles north of Akron																																
Not grazed																																
Hay meadow	10	16.1	14.6	T	0	30.7	.3	2.2	2.8	0	7.3	0	.1	3.5	0	.4	2.8	25.8	45.2	75.9	0	0	0	0	0	0	0	0	0	75.9	16.1	8.1
←Moderately grazed	10	68.0	0	0	0	68.0	0	0	1.0	0	14.5	0	0	.3	0	T	2.7	5.6	24.1	92.1	0	.2	0	0	0	0	0	0	.2	92.3	5.5	2.1
←Heavily grazed	10	58.7	1.9	0	0	60.6	0	1.1	0	T	4.4	0	0	0	0	1.3	10.7	3.4	20.9	81.5	0	T	0	1.1	0	0	0	0	1.1	82.6	17.2	.2
←Ave. all grazed areas	20	63.4	1.0	0	0	64.3	0	.6	.5	T	9.5	0	0	.2	0	.7	6.7	4.5	22.5	86.8	0	.1	0	.6	0	0	0	0	.7	87.5	11.4	1.2
←Ave. all areas	30	47.6	5.5	T	0	53.1	.1	1.1	1.3	T	8.7	0	T	1.3	0	.6	5.4	11.6	30.1	83.2	0	.1	0	.4	0	0	0	0	.5	83.6	12.9	3.5
Dune Sand, 18 miles N.W. of Akron																																
Heavily grazed																																
Sage-sand type																																
Ankle's pasture	5	42.3	0	0	0	42.3	2.3	7.6	1.8	0	1.8	0	0	0	0	0	4.8	4.8	23.1	65.4	0	T	0	0	0	0	0	0	T	65.4	33.9	.8
Stockwell's pasture	5	40.6	.2	0	0	40.8	2.7	.2	1.7	0	9.2	0	0	0	0	T	9.0	3.6	26.4	67.2	0	0	0	0	0	0	0	0	0	67.2	29.6	3.2
Average	10	41.5	.1	0	0	41.6	2.5	3.9	1.8	0	5.5	0	0	0	0	T	6.9	4.2	24.8	66.3	0	T	0	0	02	0	0	0	T	66.3	31.8	2.0
Yucca-sand type																																
Ankle's pasture	5	44.7	4.5	0	0	49.2	1.7	0	0	0	8.9	0	0	0	6.1	1.1	.6	1.1	19.5	68.7	0	0	0	0	0	0	0	0	0	68.7	30.2	1.1
Stockwell's pasture	10	20.7	.3	0	0	21.0	1.0	T	.7	0	.3	0	0	0	1.7	T	1.7	4.0	9.4	30.4	0	0	0	0	0	0	0	0	0	30.4	68.2	1.3
Average	15	32.7	2.4	0	0	35.1	1.4	T	.4	0	4.6	0	0	0	3.9	.6	1.2	2.6	14.5	49.6	0	0	0	0	0	0	0	0	0	49.6	49.2	1.2
Ave. heavily grazed	25	37.1	1.3	0	0	38.4	2.0	2.0	1.1	0	5.0	0	0	0	2.0	.3	4.0	3.4	19.7	58.0	0	T	0	0	0	0	0	0	T	58.0	40.5	1.6
All Soil Types																																
Grand average																																
Not grazed	20	51.8	7.3	3.9	T	63.0	.2	1.1	1.4	0	3.7	0	.1	1.8	0	.2	1.4	12.9	22.7	85.7	.1	.1	.1	0	.2	0	0	T	.4	86.0	10.0	4.1
Moderately grazed	20	41.5	0	22.5	0	64.0	0	0	.5	.3	7.3	0	0	.2	0	1.0	1.3	2.8	14.2	78.1	0	.4	.1	.1	.2	0	0	0	.7	78.8	4.2	17.1
Heavily grazed	85	43.5	.8	26.3	T	70.6	.5	.8	.3	.1	2.4	0	0	0	.5	.5	3.9	1.7	10.6	81.1	0	.3	0	.3	T	T	T	0	.6	81.7	16.9	1.5
Very heavily grazed	10	58.2	0	40.7	0	98.9	0	0	0	0	0	0	0	0	0	0	.6	0	.6	99.5	0	T	0	.1	0	0	0	0	.1	99.6	.1	.1
All grazed areas	115	45.0	.5	27.3	T	72.7	.3	.5	.3	.1	3.4	0	0	T	.3	.5	2.9	1.8	10.2	82.9	0	.3	T	.2	.1	T	T	T	.6	83.4	10.8	5.7
All areas**	135	46.5	2.0	22.1	T	70.6	.3	.6	.5	.1	3.5	0	T	.4	.2	.5	2.6	4.2	12.9	83.5	T	.2	T	.2	.1	T	T	T	.5	84.0	10.6	5.4

* Total vegetation includes all species, except annual for

T-indicates a trace or less than .1 percent.

Table_____. Percentage of ground surface occupied by grasses, forbs and sedges on ungrazed, moderately grazed and heavily grazed areas in the vicinity of Hays, Kansas, as charted with pantograph in May, 1935.

Grazing or clipping and watering treatments	No. of quadrate	Grass species: Perennial grasses: Short grasses: Bg	Bd	Total	Tall grasses: Asm	As	Al	Bc	Sc	Total	Total Pere.	Annual grasses: Cv	Fo	H	Total	Total all grass	Total forbs Per.& Bien.	Total sedges	Total vegetation*
Silty Clay Loam Soil																			
Dry Land Lawns:																			
Clipped 1/2 in.	2	3.85	44.23	48.08	0	0	0	0	0	0	48.08	0	0	0	0	48.08	.16	0	48.24
Clipped 1 1/4 in.	8	9.10	20.16	29.26	.10	.02	0	0	.19	.31	29.57	0	0	0	0	29.57	.10	.29	29.96
Clipped 2 in.	2	12.61	15.00	27.61	.21	0	0	0	.44	.65	28.26	0	.03	0	.03	28.29	.02	0	28.31
Cut twice yrly. 1 1/4 in.	2	14.73	21.23	35.96	.45	0	0	0	.76	1.21	37.17	0	0	0	0	37.17	0	0	37.17
Not cut	2	10.37	10.60	20.97	1.00	0	0	0	.19	1.19	22.16	0	0	0	0	22.16	4.96	0	27.12
Average dry land lawns	16	10.13	22.24	32.38	.35	T	0	0	.32	.67	33.05	0	.01	0	.01	33.05	1.05	.06	34.16
Lightly Watered Lawns:																			
Clipped 1/2 in.	2	5.45	86.84	92.29	.19	0	0	0	0	.19	92.48	0	0	.02	.02	92.50	.02	.63	93.15
Clipped 1 1/4 in.	2	12.63	66.81	79.44	0	0	0	0	0	0	79.44	0	0	0	0	79.44	.03	0	79.47
Clipped 2 in.	2	13.85	46.34	60.19	.29	0	1.76	0	0	2.05	62.24	.27	0	.06	.33	62.57	.19	0	62.76
Cut twice yrly. 1 1/4 in.	2	25.73	32.32	58.05	.89	0	.47	0	.84	2.20	60.25	0	0	1.16	1.16	61.41	.37	0	61.78
Not cut	2	17.35	21.61	38.96	.52	0	1.26	0	0	1.78	40.74	0	0	1.24	1.24	41.98	2.81	.16	44.95
Average lightly watered lawns	10	15.00	50.78	65.79	.38	0	.70	0	.17	1.24	67.03	.05	0	.50	.55	67.58	.68	.16	68.42
Heavily Watered Lawns:																			
Clipped 1/2 in.	2	1.42	92.45	93.87	.06	0	0	0	0	.06	93.93	.06	0	.10	.16	94.09	.42	0	94.51
Clipped 1 1/4 in.	2	11.00	66.29	77.29	0	0	0	0	0	0	77.29	.15	0	.68	.83	78.12	.28	0	78.40
Clipped 2 in.	2	23.39	43.08	66.47	.03	0	.06	.66	0	.75	67.22	0	0	.27	.27	67.49	1.55	0	69.04
Cut twice yrly. 1 1/4 in.	2	8.31	22.13	30.44	.05	0	0	0	.06	.11	30.55	.24	.06	2.87	3.17	33.72	.20	0	33.92
Not cut	2	15.98	22.76	38.74	0	0	1.73	0	.13	1.86	40.60	0	.10	.37	.47	41.07	1.40	0	42.47
Average heavily watered lawns	10	12.02	49.34	61.36	.03	0	.36	.13	.04	.56	61.92	.09	.03	.86	.98	62.90	.77	0	63.67
Average All Lawns:																			
Clipped 1/2 in.	6	3.57	74.51	78.08	.08	0	0	0	0	.08	78.16	.02	0	.04	.06	78.22	.20	.21	78.63
Clipped 1 1/4 in.	12	10.91	51.09	62.00	.03	.01	0	0	.06	.10	62.10	.05	0	.23	.28	62.38	.14	.10	62.61
Clipped 2 in.	6	16.62	34.81	51.42	.18	0	.61	.22	.15	1.15	52.57	.09	.01	.11	.21	52.78	.59	0	53.37
Cut twice yrly. 1 1/4 in.	6	16.26	25.23	41.48	.46	0	.16	0	.55	1.17	42.65	.08	.02	1.34	1.44	44.10	.19	0	44.29
Not cut	6	14.57	18.32	32.89	.51	0	1.00	0	.11	1.61	34.50	0	.03	.54	.57	35.07	3.06	.05	38.18
Ave. all watering and clipping treatments	36	12.38	40.79	53.18	.25	T	.35	.04	.18	.82	54.00	.05	.01	.45	.51	54.51	.83	.07	55.42
Moderately grazed:	6	8.63	12.47	21.10	.10	0	0	0	0	.10	21.20	0	0	0	0	21.20	.05	T	21.25
Heavily grazed:																			
First location	12	4.32	8.18	12.50	0	0	0	0	.10	.10	12.60	0	0	0	0	12.60	0	0	12.60
Second location	9	5.23	12.00	17.23	T	0	.02	0	.08	.10	17.33	T	0	1.21	1.21	18.54	.04	0	18.58
Average heavily grazed	21	4.78	10.09	14.87	T	0	.01	0	.09	.10	14.97	T	0	.61	.61	15.57	.02	0	15.59
Grand Average:																			
All grazed areas	29	6.71	11.28	17.99	.05	0	.01	0	.05	.10	18.09	T	0	.30	.30	18.39	.03	T	18.42
All treatments except watering	43	7.85	14.93	22.78	.15	T	T	0	.14	.29	23.07	T	T	.20	.21	23.27	.37	.02	23.67
All treatments including watering	63	10.11	28.98	39.10	.17	T	.21	.03	.12	.53	39.63	.03	.01	.39	.43	40.06	.51	.04	40.62

* Total vegetation includes all species of vegetation, except annual forbs. T-trace or less than .1 percent.

Bg-Boutelcua gracilis (Blue grama), Bd-Buchloe dactyloides (Buffalo grass), Asm-Agropyron smithii (Western wheat grass), As-Andropogon scoparius (Little Bluestem), Al-Aristida longissta (Wire grass), Bc-Boutelcua curtipendula (Side oate grama), Sc-Sporobolus cryptandrus (Sand dropseed), Cv-Chloris verticillata (Windmill grass), Fo-Festuca octoflora (Slender fescue), H-Hordeum pusillum (Little barley).

Additional footnote for Table_____.

Bg-Bouteloua gracilis (Blue grama), Bh-Bouteloua hirsuta (Hairy grama), Bd-Buchloe dactyloides (Buffalo grass), Sp-Schedonnardus paniculatus (Tumble grass), Apa-Agropyron pauciflorum (Slender wheat grass), Af-Andropogon furcatus (Big Bluestem), Al-Aristida longiseta (Wire grass), Clo-Calamovilfa longifolia (Long-leaved reed grass), Hj-Hordeum jubatum (Squirrel-tail), Psp-Panicum species, Pv-Panicum virgatum (Switch grass), Rf-Redfieldia flexuosa (Blow-out grass), Sa-Sporobolus asper (Rough rush grass), Sc-Sporobolus cryptandrus (Sand dropseed), Sco-Stipa comata (Needle grass), Bt-Brcmus tectorum (Downy Brome), Fo-Festuca octoflora (Slender Fescue), H-hordeum pusillum (Little barley), Ms-Munroa squarrosa (False buffalo grass), Pc-Panicum capillare (Witch grass), Ssp-Setaria species, Sv-Setaria viridis (Green foxtail), and Ua-unknown annual grass.